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09/751,848	01/02/2001	Jeong-hoon Park	Q62028	9288
<div>7590 07/24/2007 SUGHRUE, MION, ZINN, MACPEAK &amp; SEAS, PLLC 2100 Pennsylvania Avenue, N.W. Washington, DC 20037-3202</div>				
			EXAMINER LEE, ANDREW CHUNG CHEUNG	
			ART UNIT 2616	PAPER NUMBER
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

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# Office Action Summary

Application No.

09/751,848

Applicant(s)

PARK ET AL.

Examiner

Andrew C. Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 09 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1, 2, 5 - 28, 32, 33, 36 - 59 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 5 - 28, 32, 33, 36 - 59 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Amendment***

1. Claims 1, 2, 5 – 28, 32, 33, 36 – 59 are pending.
2. Claims 3, 4, 34, 35 had been canceled.
3. Rejections of Claims 1, 2, 5 – 28, 32, 33, 36 – 59 under 35 U.S.C. 101 for non-statutory subject matter maintain.

### ***Claim Rejections - 35 USC § 101***

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 1, 2, 5 – 28, 32, 33, 36 – 59, are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Regarding claims 32, 33, according to page 53 of Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility "A tangible computer-readable recording medium in which a computer program for performing a method of transmitting a bit stream in a communication network is stored", claims 32 and 33 are non-statutory subject matters because the claims 32, 32 do not have "the claimed computer-readable medium encoded with a computer program (or computer executable instructions or instructions capable of being executed by a computer).

Considering claims 32, 33

To determine whether the claimed subject matter complies with the eligibility requirement of 35 USC 101, we ask

Does the claimed invention fall within an enumerated statutory category?

The answer is "No".

As Evidenced at page 14, lines 5 – 11 of the specification, in "can be written in a program that can be executed in computers, and can be realized in general-use digital computers which operate the program from a medium which is used in computers. The medium includes a magnetic storage medium (for example, a ROM, a floppy disc, a hard disc, and the like), an optical read-out medium such as a **carrier-wave** (for example, transmission via the Internet)." Thus the claimed application in **claims 32, and 33 are nothing but merely a software application embodied in a signal. A signal is non-statutory subject matter.**

Thus, claims 32, 33, 36 – 59 are non-statutory, since these claims as a whole are directed to **a signal.**

As to claims 1, 2, these claims are written in a form of "method". However, as evidenced in claims 32, 33, claims 1 – 28 are claiming software in the form of method. Note that claims 1 and 2 mirrors claims 32, 33 in all respects except for the preamble and in light of the specification it is nothing more than the instructions of the application.

When claim 1 falls within one of the statutory categories, we continue to ask the following question.

Does the claimed invention cover a judicial exception?

The answer is "Yes", i.e. abstract idea - computer program.

Once the claim covers a judicial exception, we need to determine whether there is a practical application recited in the claim. The final result achieved by claim 1 is to provide a service protocol responsive to receiving a request identifying a value added service protocol. It is clear that 1) there is no physical transformation recited in the claim, and 2) no useful and tangible result recited in the claim. The computer program per se does not produce useful and tangible result. Thus, claims 1- 28, 32 - 59 are also nonstatutory since the patent protection sought by the claimed invention is for the computer program in the abstract.

### ***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 32 and 33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 32 and 33 appear to be an apparatus or device claims, the claims have method steps being executed by a computer program. However, the claims further claimed a computer program to execute a method and to perform method steps. Claims 32 and 33 taken as a whole appear to be an apparatus claim. Therefore, it is not clear what is claimed by the applicant is it the "an apparatus" or "a computer program" or "a method".

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7. Claims 36, 44, 50, 38, 46, 52, 40, 54, 41, 55, 42, 48, 56, 58, 37, 45, 51, 39, 47, 53, 43, 49, 57, 59 are rejected under 35 U.S.C. 112, second paragraph because 36, 44, 50, 38, 46, 52, 40, 54, 41, 55, 42, 48, 56, 58, 37, 45, 51, 39, 47, 53, 43, 49, 57, 59 are dependent upon the rejected base claims 32 and 33, respectively.

8. Claim 5 recites the limitation "the number of times of re-transmission" in lines 1 – 2. There is insufficient antecedent basis for this limitation in the claim.

9. Claim 6 recites the limitation "the number of times of re-transmission" in lines 1 – 2. There is insufficient antecedent basis for this limitation in the claim.

10. Claim 36 recites the limitation "the number of times of re-transmission" in line 2. There is insufficient antecedent basis for this limitation in the claim.

11. Claim 37 recites the limitation "the number of times of re-transmission" in line 2. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 103***

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 1, 2, 5 – 28, 32, 36 – 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ludwig (US 6,697,352 B1) and Sutoh (US 6,678,770 B1) in view of Zhu (US 6,154,780).

Regarding Claims 1, 2, 32, 33, Ludwig discloses of a method, a tangible computer-readable recording medium of transmitting a bit stream in a communication network (recited "generating data packets (as a bit stream) to be sent out having a first data structure determined by a first predetermined protocol" correlates to a method of transmitting a bit stream in a communication network; column 5, lines 26 – 36), the method comprising: (b) adding a header from each communication protocol layer to a payload while transmitting the bit stream coded in the step of to each communication protocol layer (recited "passing data through the layers" correlates to adding a header from each communication protocol layer to a payload; Fig 5, column 2, lines 10 – 33, column 17, lines 4 – 15); and, wherein in operation (c), a bit stream, to which header information has been added by undergoing each communication protocol layer (recited "passing data through the layers" correlates to header information has been added by undergoing each communication protocol layer; Fig 5, column 2, lines 10 – 33, column 17, lines 4 – 15) is transmitted in an unacknowledged mode protocol (recited "no unacknowledged numbered mode packets is allowed to be outstanding" correlates to a bit stream is transmitted in an unacknowledged mode protocol; column 15, lines 50 – 56), and only the header information in the bit stream is transmitted in an acknowledged mode

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protocol (recited "by means of acknowledgement messages" correlates to header information in the bit stream is transmitted in an acknowledged mode protocol; column 4, lines 13 – 22, Fig. 5, column 14, lines 66 – 67).

Ludwig does not disclose only the header information in the bit stream is separately transmitted in acknowledged mode protocol.

Sutoh disclose the limitation of only the header information in the bit stream is separately transmitted in acknowledged mode protocol ("can transmit the protocol header and data as separate blocks" correlates to only the header information in the bit stream is separately transmitted; Fig. 19, column 13, lines 50 – 58).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Ludwig to include only the header information in the bit stream is separately transmitted in acknowledged mode protocol such as that taught by Sutoh in order to provide a control system for the peripheral component interconnect bus as suggested by Sutoh (see column 1, lines 9 – 11).

Both Ludwig and Sutoh do not disclose explicitly (a) coding source data into the bit stream using a predetermined type of coding.

Zhu discloses the limitation of (a) coding source data into the bit stream using a predetermined type of coding (column 1, lines 33-34 — using H.263 representing a picture in an encoded video bitstream). Therefore, it would have been obvious to modify both Ludwig and Sutoh to include coding source data into the bit stream using a predetermined type of coding as that taught by Zhu in order to create a flexible bitstream



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that may be efficiently packetized for a variety of transport protocols (as suggested by Zhu, see column 3, lines 26 – 27).

Regarding claims 5, 6, 36, 37, Ludwig discloses when the number of times of re-transmission of a bit stream transmitted in an acknowledged mode protocol is equal to or less than a predetermined number of times, the bit stream, which has been transmitted in an unacknowledged mode protocol, is transmitted in an acknowledged mode protocol (recited “moving up to next protocol layer for a predetermined number of times, where the exceeding of said predetermined numbers of times leads to a default mode” as the number of times of re-transmission of a bit stream transmitted in an acknowledged mode protocol is equal to or less than a predetermined number of times; column 12, lines 41 – 50).

Regarding claims 7, 8, 9, 38, 39, 40, Ludwig discloses the header information in the bit stream be simultaneously transmitted in an acknowledged mode protocol with the bit stream (column 14, lines 66-67). He also teaches that the header information in the bit stream is simultaneously transmitted in an acknowledged mode protocol with the payload (column 15, lines 6-12). And the header information in the bit stream is simultaneously transmitted in the unacknowledged mode protocol with the bit stream (column 14, lines 62-64).

Regarding claims 10, 41, Ludwig discloses that as a transmission error occurs, the bit stream, to which headers have been added by undergoing each communication

protocol layer, is re-transmitted in an acknowledged or unacknowledged mode protocol (recited "protocol provides a numbered reliability mode and an unnumbered reliability mode" as each communication protocol layer, is re-transmitted in an acknowledged or unacknowledged mode protocol; column 11, lines 48-57).

Regarding Claims 11, 12, 13, 14, 15, 16, 42, 43, 44, 45, 46, 47, Ludwig teaches the acknowledged mode protocol being a transmission control protocol (TCP), and the unacknowledged mode protocol being a user datagram protocol (UDP) (recited "by means of acknowledgement messages" as header information in the bit stream is transmitted in an acknowledged mode protocol; column 4, lines 13 – 22, Fig. 5, column 14, lines 66 – 67, Column 6, lines 24-26; lines 35-37; column 11, lines 48-57, Fig 9a and 9b).

Regarding Claims 17, 18, 19, 20, 21, 22, 23, 24 and 48, 49, 50, 51, 52, 53, 54, 55, Ludwig discloses the limitations of the acknowledged mode retransmitting Internet Protocol (IP) or Radio Link Protocol (RLP) packets (recited "acknowledgment packages" as acknowledged mode retransmitting; Column 11, lines 50-57; recited "RLP packets of the numbered mode that are to be retransmitted" as Radio Link Protocol (RLP); column 13, lines 60-63).

Regarding Claims 25, 26, 56, 57 Ludwig discloses the limitations of the headers are a payload header, a real time protocol (RTP) header, a user datagram protocol (UDP) or transmission control protocol (TCP) header, an Internet protocol (IP) header, a radio link

protocol (RLP) header, and a layer 2 (L2) header, which are added after a bit stream is passed through each layer (column 6, lines 15-26, Fig.5 and Fig.6)

Regarding claims 27, 28 and 58, 59, Ludwig discloses the payload includes multimedia data (recited "real-time data streams" as payload includes multimedia data; column 6, lines 60-65; column 17, lines 18-19).

Regarding Claim 29, Ludwig discloses adding the header of each communication protocol layer to a payload while transmitting the bit stream encoded by the encoder to each communication protocol layer (recited "passing data through the layers" as adding the header of each communication protocol layer to a payload; Fig. 5, column 2, lines 10 – 32); and a packet processing unit for transmitting the bit stream processed by the protocol processing unit in an unacknowledged mode protocol (column 6, lines 25 – 26; lines 34 – 37) and transmitting the header information in an unacknowledged or acknowledged mode protocol (Fig 5, column 6, lines 26 – 27; column 12, lines 33 – 34).

Both Ludwig and Sutoh do not disclose an encoder for encoding source data into a bit stream.

Zhu teaches an encoder for encoding source data into a bit stream (recited " an encoder/decoder (codec) as an encoder for encoding source data; column 6, lines 10-14, Fig 5; lines 5-9). Therefore, it would have been obvious to modify Both Ludwig and Sutoh to include an encoder for encoding source data into a bit stream such as that taught by

Zhu in order to create a flexible bitstream that may be efficiently packetized for a variety of transport protocols as suggested by Zhu (see column 3, lines 26 – 27).

Regarding Claims 30 and 31, Ludwig disclose the system for relaying and receiving a bit stream in a communication network (Fig 6), the system comprising an extractor for separately extracting payloads and header information, which corresponds to the header of each layer (Fig. 8; column 9, lines 61 – 65), while transmitting a bit stream received in a separate transmission protocol in the communication network to each layer (column 10, lines 33 – 36); an error determination processing unit for determining whether the header information extracted by the extractor has error (column 10, lines 20-27, column 16, lines 24 – 34); a bit stream re-organizing unit for re-organizing a bit stream using the header information extracted by the extractor; and a decoder for decoding a bit stream re-organized by the bit stream re-organizing unit (column 14, lines 46-51). He also teaches the system having the error determination processing unit also requests re-transmission if it is determined that the header information has error (column 13, lines 2-7), an extractor for separately extracting payloads and header information, which corresponds to the header of each layer (column 9, lines 61-65), while transmitting a bit stream received in a separate transmission protocol in the communication network to each layer (column 10, lines 33-36);

However, Ludwig et al. do not disclose receiving a bit stream and a header information received in an acknowledged or unacknowledged mode protocol in the communication network to each layer.

Sutoh teaches receiving a bit stream and a header information received in an acknowledged or unacknowledged mode protocol in the communication network to each layer ("can transmit the protocol header and data as separate blocks" correlates to receiving a bit stream and a header information received in an acknowledged or unacknowledged mode protocol in the communication network to each layer; Fig. 19, column 13, lines 50 – 67, column 14, lines 1 – 9).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Ludwig to include receiving a bit stream and a header information received in an acknowledged or unacknowledged mode protocol in the communication network to each layer as taught by Sutoh in order to provide a control system for the peripheral component interconnect bus as suggested by Sutoh (see column 1, lines 9 – 11).

### ***Response to Arguments***

14. Applicant's arguments filed on 5/09/2007 with respect to claims 1, 2, 5 – 33, 36 – 39 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Le (US 6466585 B1) disclose an apparatus, and associated method, converts real-time multimedia information generated pursuant to an RTP protocol into a

form amenable for transmission upon a radio channel, such as a radio channel defined in a cellular communication system.

- Jonsson et al. (US 6700888 B1) disclose in packet communication paths that include header compression, header fields of packets to be communicated are altered. The alteration of the header fields does not disturb their functionality, and is transparent to the header compression scheme of the packet communication path.
- Le (US 6680955 B1) disclose a timer based header compression/decompression technique and timer and reference based technique are provided. A source generates a header field, such as an RTP time stamp.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew C. Lee whose telephone number is (571) 272-3131. The examiner can normally be reached on Monday through Friday from 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edan D. Orgad can be reached on (571) 272-7884. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information

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for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Andrew C. Lee/::<7/14/2007>

Robert W. Wilson  
*Robert W. Wilson*  
7/19/07